



# INSTRUCTIONS

GEK-27918  
INSERT BOOKLET    GEI-31086

THREE PHASE OFFSET MHO RELAY

TYPE 12CEB13J

**POWER SYSTEMS MANAGEMENT DEPARTMENT**

**GENERAL  ELECTRIC**

**PHILADELPHIA, PA.**

## THREE PHASE OFFSET MHO RELAY

TYPE 12CEB13J

INTRODUCTION

This supplement in addition to the attached book, GEI-31086, constitutes the instructions for relay Type 12CEB13J.

DESCRIPTION

Relay Type 12CEB13J is similar to the 12CEB13B except for the following:

1. The transactor is connected to the off-set in the forward direction.
2. The internal connections are shown in Figure 1.

APPLICATION

The phase mho units of the 12CEB13J with their forward offset feature are readily used with a Type CEY15A relay, zone 1 mho units, to provide an overall "figure eight" relay characteristic. The 12CEB13J units act as the second zone or overreaching units. They are set to overlap the zone 1 mho units with at least 20% of the zone 1 reach.

The "figure eight" characteristic is applied where the line protection requires a long forward reach setting and at the same time it is necessary to accommodate heavy line loadings or minor system swings without causing relay operation.

TESTING INSTRUCTIONS

Instructions for periodic tests are discussed in the attached book. However, since the transactor is connected to offset in the forward direction, the angular adjustment can be done as follows:

1. Connect relay per Figure 13 in attached book.
2. Set tap plugs for 100% restraint.
3. Set offset at 2 ohms.
4. Set voltage for 55 volts, and current for 10 amps.
5. By means of R61, R62 and R63 adjust the angle of maximum torque for  $285^{\circ}$  within  $\pm 1/2^{\circ}$ .

To check the ohmic offset, set the voltage at 27.5 volts. Set the taps at 1.0 and then, 2.0. The pickup current should be 12.2 - 14.95 and 6.1 - 7.45 amps, respectively.

All other matters are discussed in the attached instruction book.

***These instructions do not purport to cover all details or variations in equipment nor to provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company.***

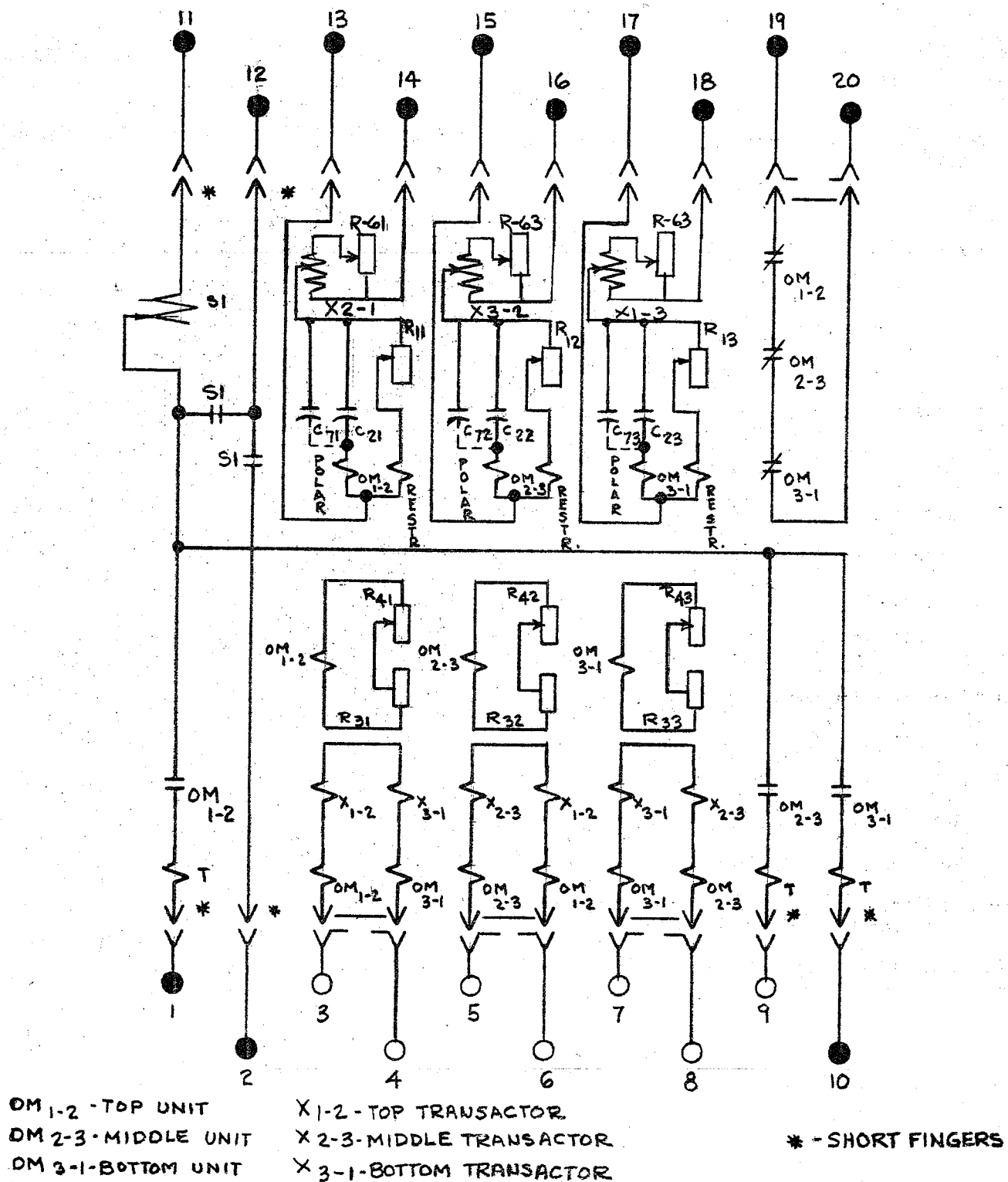


FIG. 1 (0165A6054-1) SH. 1 INTERNAL CONNECTIONS DIAGRAM FOR THE CEB13J RELAY (FRONT VIEW)